

as I shall resume the subject when discussing the nature and origin of the "lake ridges" near Toronto.

The town of Cleveland is built on a terrace of stratified clay and sand, the height of which is 103 feet above the lake. Its depth is unknown, the fundamental Devonian (or Hamilton) strata being concealed here, so that the newer deposit exclusively occupies the lake shore for forty miles. As several rivers besides the Cuyahoga of Cleveland cut winding courses through this terrace, we may presume that these rivers existed when the water stood 100 feet higher relatively to the land. If so, we seem to have here an upraised delta formed of the materials brought down by streams before the waters had sunk to their present relative level. The nature of the sand and clay is such as rivers might have washed down from the land above, but no shells have been discovered, although diligently searched for, during the excavation of a ship canal and other works in the town. The tooth of a mastodon, however, was shown me as having been found low down in the clay.

*June 5.*—Sailed in a steamboat to Fredonia, a town of 1200 inhabitants, with neat white houses, and six churches. The streets are lighted up with natural gas, which bubbles up out of the ground, and is received into a gasometer, which I visited. This gas consists of carburetted hydrogen, and issues from a black bituminous slate, one of the beds of the Hamilton group of the New York geologists, or part of the Devonian formation of Europe. The lighthouse-keeper at Fredonia told me that, near the shore, at a considerable distance from the gasometer, he